



## **APPLICATION FOR A COASTAL ZONE ACT PERMIT**

**State of Delaware  
Department of Natural Resources & Environmental Control  
Office of the Secretary**

Date of submission: August 2, 2017  
Combined Heat and Power (CHP) System 2  
Croda, Inc.

## Table of Contents

Part 1.	Certification by Applicant.....	4
Part 2.	Applicant Information and Site Identification.....	5
Part 3.	Project Summary.....	6
Part 4.	Project Property Record, and Evidence of Local Zoning and Planning Approval.....	7-8
Part 5.	Project Operations.....	9
Part 6a.	Environmental Impacts.....	11-19
Part 6b.	Environmental Offset Reduction Claim.....	20
Part 6c.	Environmental Offset Proposed.....	21-22
Part 7.	Economic Effects.....	24
Part 8.	Supporting Facilities Requirements.....	26
Part 9.	Aesthetic Effects.....	27
Part 10.	Effects on Neighboring Land Uses.....	28
Part 11.	Attachments or Appendices (figures, tables, maps, forms, etc.).....	29

## **Permit Application Instructions**

1. Complete all parts of the application. For sections which are not applicable to your project, do not leave blank; present a statement that clearly states why the section is not applicable to your project.
2. Because all applicants' projects are different, this word document template will provide you flexibility for needed space to answer the questions. Please insert additional lines for text where needed for your application. If appropriate, attach extra pages referencing each answer by the corresponding section and question number.
3. Submit eight complete hard copies of the permit application to:

Office of the Secretary  
Department of Natural Resources & Environmental Control  
State of Delaware  
89 Kings Highway  
Dover, DE 19901

In addition to the eight hard copies, submit a complete electronic "pdf" copy of the permit application and a copy of the Offset Matrix in Microsoft Word format on cd-rom.

4. Comply, if required, or as requested by the DNREC Secretary, with [7 Delaware Code, Chapter 79, Section 7902](#). If requested, but not completed, your application will not be considered administratively complete until this form is reviewed.
5. Be sure to include your permit application fee of \$3,000; otherwise the application will not be considered administratively complete. Make checks payable to the "State of Delaware."
6. Be advised that the application for a Delaware Coastal Zone Act Permit is a public document, which may be displayed at DNREC offices, public libraries, and the web, among others. If this application requires you to place confidential information or data in the application to make it administratively complete, note the Delaware Freedom of Information Act ([29 Delaware Code, Chapter 100](#)) and [DNREC's Freedom of Information Act Regulation](#), Section 6 (Requests for Confidentiality), for the proper procedure in requesting confidentiality.

*Note: This application template was last revised by DNREC on January 30, 2008. Please discard any previous versions.*

## **PART 1**

### **CERTIFICATION BY APPLICANT**

Under the penalty of perjury pursuant to 11 Delaware Code §1221-1235, I hereby certify that all the information contained in this Delaware Coastal Zone Act Permit Application and in any attachments is true and complete to the best of my belief.

I hereby acknowledge that any falsification or withholding of information will be grounds for denial of a Coastal Zone Permit.

I also hereby acknowledge that all information in this application will be public information subject to the Delaware Freedom of Information Act, except for clearly identified proprietary information agreed to by the Secretary of the Department of Natural Resources & Environmental Control.

Christopher Barnett on behalf of Croda Inc.  
Print Name of Applicant

\_\_\_\_\_  
Signature of Applicant

Site Director  
Title

August 2, 2017  
Date

## PART 2

### APPLICANT INFORMATION AND SITE IDENTIFICATION

2.1 Identification of the applicant:

Company Name: Croda, Inc.  
Address: 315 Cherry Lane, New Castle, DE, 19720  
Telephone: 302-429-5599  
Fax: 302-429-5304

2.2 Primary contact: Please list the name, phone number and email of a preferred contact within your company in case the DNREC needs to contact you regarding this permit application.

Derrick Schweitzer - Safety, Health & Environmental Manager  
302-429-5201  
derrick.schweitzer@croda.com

2.3 Authorized agent (if any): N/A

Name:  
Address:  
Telephone:  
Fax:

*If you have an authorized agent for this permit application process, provide written authorization from client for being the authorized agent.*

2.4 Project property location (street address): 315 Cherry Lane, New Castle, DE, 19720

2.5 In a separate attachment, provide a general map of appropriate scale to clearly show the project site. **See Attachment A**

2.6 Is the applicant claiming confidentiality in any section of their application?

YES  
**NO**

If yes, see instructions on page 3.

## PART 3

### PROJECT SUMMARY

*Provide a one-page summary describing the proposed project. Include a brief quantitative description of the anticipated environmental impacts, and how the Environmental Offset Proposal will “clearly and demonstrably” more than offset any negative impacts.*

This project is a combined heat and power (CHP) system that includes a 2.0 MW lean-burn gas generator and a waste heat recovery system. The CHP will be a Cummins C2000 N6 reciprocating engine generator that will use landfill gas from the nearby Cherry Island Landfill facility as fuel. The landfill gas is currently delivered to the Croda site via pipeline following pretreatment. The transportation and treatment systems for the landfill gas are owned and operated by others and are not a part of this project.

The CHP equipment will be installed adjacent to the existing Croda powerhouse building, and the electricity will be utilized throughout the Croda site via the existing power distribution system.

The proposed CHP system is a net environmental air emission improvement project and therefore the environmental offset is embodied within the project proposal. Electricity generated at the Croda site through the CHP system will significantly reduce the amount of utility electric power purchased by the site. It reduces a proportional amount of emissions associated with commercial electric power generation.

Additional environmental benefits from this project include combusting the landfill gas for beneficial use i.e. electric generation instead of wasting the gas by flaring it at the landfill, and reducing the import of utility natural gas to the site steam boilers by using the heat from the CHP to pre-heat feed water and to produce steam. This will be accomplished by using the heat from the engine oil that will be circulated through a heat exchanger to cool it. The heat will be used to pre-heat boiler feed water. In addition, the high temperature exhaust stream from the CHP engine will be used to produce steam to supplement the steam produced by the site boilers to supply the plant needs. The savings in emissions are summarized in Attachment B.

The present timetable for the CHP project indicates permitting, detail design, procurement, and construction to be complete by the beginning of the third quarter of 2018.

## **PART 4**

### **PROJECT PROPERTY RECORD AND EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL**

#### **PROJECT PROPERTY RECORD**

- 4.1 Name and address of project premises owner(s) of record:  
**Croda Inc.**  
**315 Cherry Lane**  
**New Castle, DE 19720**
- 4.2 Name and address of project premises equitable owner(s): **Same**
- 4.3 Name and address of lessee(s): **N/A**
- 4.4 Is the project premises under option by permit applicant? **No**
- 4.5 What is the present zoning of the land for this entire project site? **Heavy Industrial**

EVIDENCE OF LOCAL ZONING AND PLANNING APPROVAL

**NOTE: New Castle Verification of Zoning – see Attachment C**

I, \_\_\_\_\_, for \_\_\_\_\_  
(Name of County, City of Town)

do hereby affirm that the project proposed by \_\_\_\_\_  
(Name of Applicant)

located at \_\_\_\_\_, in  
(Address)

the \_\_\_\_\_ zoning district is in  
full compliance with the zoning code as it applies to this project.

The above named applicant's project is in compliance with the adopted comprehensive development plan for the geographic area within which the project will be located.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

*This part is essential for a complete Coastal Zone Act Permit Application. No application will be considered administratively complete without it. While the applicant is strongly advised to use this form, the local zoning jurisdiction may utilize a different form or document to demonstrate "evidence of local zoning approval," provided such documents are signed and dated by the proper official.*



## PART 5

### PROJECT OPERATIONS

- 5.1 Describe the characteristics of the manufactured product and all the process and/or assembly operations utilized by the proposed project. Include in the description (use attachments if necessary):
- a. the raw materials, intermediate products, by-products and final products and characteristics of each. Review any materials' risk of carcinogenicity, toxicity, mutagenicity and/or the potential to contribute to the formation of smog. Provide material safety data sheets (MSDS) if available; **Landfill gas supplied under contract from Cherry Island Landfill.**
  - b. the step-by-step procedures or processes for manufacturing and/or assembling the product(s). Provide a flow diagram to illustrate procedures; **See attachment D**
  - c. the nature of the materials mentioned above in 4.1(a) as to whether or not the materials require special means of storage or handling; **The landfill gas will be delivered directly to the CHP by pipeline. It will not be stored and, after treatment by others, will be fed directly to the generator engine.**
  - d. list the machinery (new and/or existing) to be utilized by this project; **One Cummins internal combustion engines with a 2.0 MW electric generator and its associated control system. Heat exchangers and a waste heat boiler to produce steam from the engine hot exhaust stream.**
  - e. list any new buildings or other facilities to be utilized; **The engine and generator will be housed in a sound reducing enclosure.**
  - f. list the size and contents of any anticipated aboveground or underground storage tank systems that may be constructed or utilized in support of facility operations; **No storage tanks are associated with this project.**
  - g. if this project represents an increase or decrease in production at an already existing facility, what will be the new rate of maximum production? **No production changes are associated with this project.**
  - h. if this project represents a totally new facility at a new or existing site, what will be the maximum production rate? **The CHP will be installed within an existing site. The maximum electric power production rate is 2.0 MW.**
- 5.2 Describe daily hours of plant operations and the number of operating shifts. **No change associated with this project. The CHP will be operated 24 hours per day, with shutdown for regular and emergency maintenance only.**

5.3 Provide a site plan of this project with:

- a. a north arrow;
- b. a scale of not less than one inch to 200 feet;
- c. identity of the person responsible for the plan, including any licenses and their numbers;
- d. the acreage of the applicant's entire property and acreage of the proposed project;
- e. property lines of entire property;
- f. lines designating the proposed project area for which application is being made, clearly distinguished from present facilities and operating areas (if any);
- g. existing and proposed roads, railroads, parking and loading areas, piers, wharfs, and other transportation facilities;
- h. existing water bodies and wetlands and proposed dredge and fill areas, and;
- i. existing and proposed drainage ways, gas, electric, sewer, water, roads, and other rights-of-way.

**See Attachment E**

5.4 How many acres of land in total are required for this proposed project?

**Existing**/ currently utilized/ developed land: Less than 1 acres.

New land: No new land use associated with this project. acres.

5.5 Has the property been involved with a state or federal site cleanup program such as Superfund, Brownfields, HSCA Voluntary Cleanup Program, RCRA Corrective Action, Aboveground or Underground Storage Tank Cleanup Programs? If so please specify which program. **HSCA Voluntary Cleanup Program**

5.6 With regards to environmental cleanup actions, has a Uniform Environmental Covenant, Final Plan of Remedial Action, or no further action letter been issued by the Department? **No Further Action letters have been issued by DNREC.** If so are the planned construction activities consistent with the requirements or conditions stated in these documents? **Yes**

## PART 6A

### ENVIRONMENTAL IMPACTS

#### Air Quality

- 6.1 Describe project emissions (new, as well as any increase or decrease over current emissions) by type and amount under maximum operating conditions:

Pollutant	Existing Emissions		Net Increase/Decrease		New Total Emissions (a)		Percent Change (compare tons/year)
	Lbs/day	Tons/year	Lbs/day	Tons/year	Lbs/day	Tons/year	
CO <sub>2</sub> (b)						14548	new
NO <sub>x</sub>					74.4	13.6	new
SO <sub>x</sub>					15.1	2.77	new
PM10					10.6	1.9	new
CO (c)					23.1	4.2	new

(a) Basis – Cummins data sheet for C2000 N6C Engine at 100% capacity.

(b) CO<sub>2</sub> emissions include approximately 40% by volume in the incoming landfill gas.

(c) Assumes 95% CO reduction by catalytic converter.

- 6.2 Describe how the above emissions change in the event of a mechanical malfunction or human error. **Emissions of CO and NOx may increase temporarily if the air/fuel ratio controls on the engine should malfunction. However, these conditions are continuously monitored by the engine computer and will notify the operator via alarms if a malfunction has occurred.**
- 6.3 Describe any pollution control measures to be utilized to control emissions to the levels cited above in 5.1. **The engine exhaust will pass through a catalytic converter to reduce carbon monoxide emissions.**
- 6.4 Show evidence that applicant has, or will have, the ability to maintain and utilize this equipment listed in 5.3 in a consistently proper and efficient manner. (For example, provide college transcripts and/or records of training courses and summary of experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms to be responsible for maintaining and utilizing this equipment.) **Croda Inc. will contract all maintenance and routine inspections with the engine manufacturer's authorized representative to ensure proper maintenance is performed and that the engine operate in compliance with design parameters.**

## Water Quality

- 6.5 Describe wastewater discharge (new, as well as any increase or decrease over current discharge levels) due to project operations: **No new water discharges, and no changes to current levels.**

Pollut	Current Disch Concentrati (ppm)	New or Chan Discharge Concentrati (ppm)	Current Discharge		Net Increase/Decre		New Total Emissi	
			Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/d	Tons/y

- 6.6 Describe the current method of employee sanitary wastewater disposal and any proposed changes to that system due to this proposed project. **Sanitary wastewater is discharged to the New Castle County sewer system and there are no proposed changes associated with this project.**
- 6.7 Identify the number, location, and name of receiving water outfall(s) of any and all process wastewater discharge (new or current) affected by this proposed project. Provide NPDES Permit Numbers for each discharge affected. **No surface water discharge will be affected by process wastewater from this project.**
- 6.8 If any effluent is discharged into a public sewer system, is there any pretreatment program? If so, describe the program. **This project will not create any new discharges to the New Castle County sewer system. Croda currently has a pretreatment permit from the County WDP-08-119.**
- 6.9 Stormwater:
- Identify the number, location, and name of receiving waters of stormwater discharges. Provide permit number for each discharge. **Site storm water is discharged through numerous outfalls to the Delaware River under NPDES permit DE0000621.**
  - Describe the sources of stormwater run-off (roofs, storage piles, parking lots, etc). **Buildings, roadways, parking lots and other paved and un-paved areas of the site.**
  - Describe the amount of stormwater run-off increase over current levels that will result from the proposed project. **No increase in stormwater is expected.**

- d. Describe any pollutants likely to be in the stormwater. **Pollutants currently limited in the permit are Biochemical Oxygen Demand (BOD), pH and temperature. No changes will result from this project.**
  - e. Describe any pollution control device(s) or management technique(s) to be used to reduce the amount of stormwater generated, and devices to improve the quality of the stormwater run-off prior to discharge. **No new improvements are planned with this project.**
  - f. Describe any new or improved stormwater drainage system required to safely carry off stormwater without flooding project site or neighboring areas down gradient. **No new improvements are planned with this project.**
- 6.10 Will this project use a new water intake device, or increase the use (flow) from an existing intake device?
- YES  
**NO**
- If yes, state:
- a. the volume of water to be withdrawn, and;
  - b. describe what will be done to prevent entrainment and/or entrapment of aquatic life by the intake device.
- 6.11 Will this proposed project result in a thermal discharge of water, or an increase in the flow or temperature of a current thermal discharge?
- YES  
**NO**
- If yes, state:
- a. the volume of the new flow or increase from the existing thermal discharge, both in flow and amount of heat;
  - b. how warm will the water be when it is discharged into a receiving waterway, discharge canal, or ditch, and what will be the difference in discharge temperature and ambient temperature (delta T) at various seasons of the year after all cooling water mechanisms have been applied to the hot water?
  - c. the equipment and/or management techniques that will be used to reduce the thermal load of the discharge water.
- 6.12 Will any proposed new discharge or change in existing discharge cause, or have potential to cause, or contribute to, the exceedence of applicable criteria appearing in the [“State of Delaware Surface Water Quality Standards”](#)?

YES

**NO**

If yes, explain:

6.13 Describe any oils discharged to surface waters due to this proposed project.  
**No oil will be discharged to surface water due to this project.**

6.14 Describe any settleable or floating solid wastes discharged to surface waters due to this project.  
**No solid wastes will be discharged to surface water due to this project.**

Show evidence that the applicant has, or will have, the ability to maintain and utilize any water pollution control equipment listed in questions 6.5 through 6.14 in a consistently proper and efficient manner. (For example, provide operator license numbers, college transcripts and/or training courses and summary of prior experience with this pollution control equipment of person(s) responsible for pollution control equipment, and/or provide copies of contracts with pollution control firms.) **The stormwater discharges are not treated using pollution control equipment**

6.15 Estimate the amount of water to be used for each specified purpose including cooling water. State daily and maximum water use in the unit of gallons per day for each purpose and source of water. State if water use will vary with the seasons, time of day, or other factors. **N/A The cooling system will be a closed system**

6.16 Identify the source of water needed for the proposed project, including potable water supplies. **None – see response to 6.15**

6.17 Are wells going to be used?

YES

**NO**

If yes:

- a. Identify the aquifer to be pumped and the depth, size and pumping capacity of the wells.
- b. Has a permit been applied for to do this?
- c. How close is the proposed well(s) to any well(s) on adjacent lands?

### Solid Waste

- 6.18 Will this project result in the generation of any solid waste?

**YES**

**NO**

If yes, describe each type and volume of any solid waste (including biowastes) generated by this project, and the means used to transport, store, and dispose of the waste(s). **Waste oil from oil changes will be sent to a reclaimer and used filters will be disposed of with regular trash.**

- 6.19 Will there be any on-site recycling, re-use, or reclamation of solid wastes generated by this project?

**YES**

**NO**

If yes, describe:

- 6.20 Will any waste material generated by this project be destroyed on-site?

**YES**

**NO**

If yes, how will that be done?

## **Hazardous Waste**

- 6.21 Will this proposed project result in the generation of any hazardous waste as defined by the [“Delaware Regulations Governing Hazardous Waste”](#)?

YES

**NO**

If yes, identify each hazardous waste, its amount, and how it is generated:

- 6.22 Describe the transport of any hazardous waste and list the permitted hazardous waste haulers that will be utilized. **N/A**

- 6.23 Will the proposed project cause the applicant to store, treat, and/or dispose of hazardous waste?

YES

**NO**

If yes, describe:

- 6.24 Does the applicant currently generate any hazardous waste at this site?

**YES**

NO

If yes, describe: **The site is currently a generator of hazardous waste under generator ID DED002342020**



### **Habitat Protection**

6.25 What is the current use of the land that is to be used for the proposed project?  
**Land for this project is paved and adjacent to the existing powerhouse building.**

6.26 Will the proposed project result in the loss of any wetland habitat?  
YES  
**NO**

If yes, describe:

6.27 Will any wastewater and/or stormwater be discharged into a wetland?  
YES  
**NO**

If yes, will the discharge water be of the same salinity as the receiving wetlands?

6.28 Will the proposed project result in the loss of any undisturbed natural habitat or public use of tidal waters?  
YES  
**NO**

If yes, how many acres?

6.29 Do threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act) exist at the site of the proposed project, or immediately adjacent to it?  
YES  
**NO**

If yes, list each species:

6.30 Will this proposed project have any effect on these threatened or endangered species (as defined by the DNREC and/or the Federal Endangered Species Act).  
YES  
**NO**

If yes, explain:

6.31 What assurances can be made that no threatened or endangered species exist on the proposed project site? The project involves a small area on an existing industrial site next to an existing building.

Describe any filling, dredging, or draining that may affect nearby wetlands or waterways.  
**No filling, dredging or draining will be performed by this project.**

- 6.32** If dredging is proposed, how much will occur and where will the dredged materials go for disposal?  
**No filling, dredging or draining will be performed by this project.**

### Other Environmental Effects

- 6.33 Describe any noticeable effects of the proposed project site including: heat, glare, noise, vibration, radiation, electromagnetic interference, odors, and other effects. **The project's internal combustion engine cooling system will generate heat that will be used to pre-heat boiler feed water. The engine exhaust heat will be used to produce steam through a small boiler. The system will be enclosed within a sound reduction enclosure to minimize noise outside of the enclosure to acceptable levels. The engine will be constructed with a vibration absorption system. No other noticeable environmental effects are anticipated.**
- 6.34 Describe what will be done to minimize and monitor such effects. **Sound reduction enclosures will minimize noise outside of the enclosure. The site conducts periodic noise level surveys throughout the facility.**
- 6.35 Describe any effect this proposed project will have on public access to tidal waters. **There will be no effect on public access to tidal waters. The project will be constructed on a privately owned industrial site.**
- 6.36 Provide a thorough scenario of the proposed project's potential to pollute should a major equipment malfunction or human error occur, including a description of backup controls, backup power, and safety provisions planned for this project to minimize any such accidents. **The system will be automated, computer controlled and is designed to automatically shutdown in the event of a malfunction. Backup power is supplied by the area electric grid.**
- 6.37 Describe how the air, water, solid and hazardous waste streams, emissions, or discharge change in the event of a major mechanical malfunction or human error. **No significant changes are anticipated since the system will immediately shut down in the event of malfunction.**

## **PART 6B**

### **ENVIRONMENTAL OFFSET PROPOSAL REDUCTION CLAIM**

Is applicant claiming the right to have a reduced offset proposal due to past voluntary improvements as defined in the “Regulations Governing Delaware’s Coastal Zone”?

YES

NO

*If yes, provide an attachment to the application presenting sufficient tangible documentation to support your claim.*

## PART 6C

### ENVIRONMENTAL OFFSET PROPOSAL

If the applicant or the Department finds that an Environmental Offset Proposal is required, the proposed offset project shall include all the information needed to clearly establish:

- A. A qualitative and quantitative description of how the offset project will “*clearly and demonstrably*” more than offset the negative impacts from the proposed project.

**The project will offset the new emissions from the generator by:**

- **eliminating current emissions from flaring the landfill gas at Cherry Island Landfill,**
- **reducing current Croda boiler emissions by using generator exhaust heat to produce steam,**
- **reducing current Croda boiler emissions by using the engine cooling system heat to pre-heat boiler feed water, and**
- **reducing utility electric generation emissions by avoidance of the purchase of 2 megawatts of electric on average per day.**

**The estimated quantities of emission reductions described above are set forth in Attachment B. The emission reductions are expected to exceed the emissions from the CHP including CO<sub>2</sub> emissions. When CO<sub>2</sub> emissions are discounted the emission offset far exceeds 1.3 to 1.**

- B. How and in what period of time the offset project will be carried out.  
**It is expected that the offsets will commence with the commissioning of the project and will continue throughout the life of the project except for occasional limited periods for maintenance.**
- C. What the environmental benefits will be and when they will be achieved.  
**The environmental benefits are utilization of what is now waste gas for beneficial use in substituting for resources now used to generate electricity and steam. It is expected that the benefits will commence with commissioning of the project and will continue throughout the life of the project except for occasional limited periods for maintenance.**
- D. What scientific evidence there is concerning the efficacy of the offset project in producing its intended results.  
**Croda has operated two 1.1 MW Cummins generators for approximately four years with a high degree of success.**

- E. How the success or failure of the offset project will be measured in both the short and long term.  
**Croda will realize reduction in utility costs and emissions.**
- F. What, if any, negative impacts are associated with the offset project.  
**None are anticipated.**
- G. How the offset will impact the attainment of the Department's environmental goals for the Coastal Zone and the environmental indicators used to assess long-term environmental quality within the Coastal Zone.  
**Reduction in the emission greenhouse gases and ozone precursors will assist DNREC in attaining its environmental air quality goals in the Coastal Zone and in the Region.**

### **Additional Offset Proposal Information for the Applicant**

1. The offset proposals must “*clearly and demonstrably*”<sup>1</sup> more than offset any new pollution from the applicant’s proposed project. The applicant can claim (with documentation) evidence of past voluntary environmental investments (as defined in the Regulations) implemented prior to the time of application. Where the Department concurs with the applicant that such has occurred, the positive environmental improvement of the offset proposal against the new negative impact can be somewhat reduced.
  
2. The applicant must complete the Coastal Zone Environmental Impact Offset Matrix. This matrix can be found on the CZA web page (<http://www.dnrec.delaware.gov/Admin/CZA/CZAHome.htm>), or by clicking on [this link](#). On page one, the applicant must list all environmental impacts in the column labeled “Describe Environmental Impacts.” In the column to the immediate right, the applicant should reference the page number of the application or attachment which documents each impact listed. In the “Describe Environmental Offset Proposal” column, applicant must state what action is offsetting the impact. The offset action shall be referenced by page number in the column to the right to show how the offset will work. The applicant shall not utilize the far right column. *Please ensure the matrix is complete, detailed, and as specific as possible, given the allotted space. Also, thoroughly proof-read to ensure there are no spelling or grammatical errors.* The applicant must submit a completed matrix both in hardcopy and electronic form.  
**The Offset Matrix is in Attachment F.**
  
3. Please note: the entire offset proposal, including the matrix, shall be available to the public, as well as the evidence of past voluntary environmental enhancements.

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<sup>1</sup> For purposes of this requirement, the DNREC will interpret the phrase “clearly and demonstrably” to mean an offset proposal that is obviously so beneficial without detailed technical argument or debate. The positive environmental benefits must be obviously more beneficial to the environment than the new pollution that minimal technical review is required by the Department and the public to confirm such. The total project must have a positive environmental impact. The burden of proof is on the applicant.

## PART 7

### ECONOMIC EFFECTS

#### Construction

- 7.1 Estimate the total number of workers for project construction and the number to be hired in Delaware.  
**Approximately 25 workers with on average 15 from Delaware.**
- 7.2 Estimate the weekly construction payroll.  
**Approximately \$45,000.**
- 7.3 Estimate the value of construction supplies and services to be purchased in Delaware.  
**Construction supplies, labor and materials are estimated to be approximately \$1.24 million.**
- 7.4 State the expected dates of construction initiation and completion.  
**Construction is expected to commence during the third quarter of 2018 and take 3-5 months to complete.**
- 7.5 Estimate the economic impact from the loss of natural habitat, or any adverse economic effects from degraded water or air quality from the project on individuals who are directly or indirectly dependent on that habitat or air or water quality (e.g. commercial fishermen, waterfowl guides, trappers, fishing guides, charter or head boat operators, and bait and tackle dealers).  
**No loss of habitat or degradation of air or water quality are expected. On the contrary, improvement in air quality due to the net environmental benefits in emission reductions is expected. Therefore, no adverse economic impacts are expected.**



## Operations

- 7.6** State the number of new employees to be hired as a direct result of this proposed project and how many of them will be existing Delaware residents and how many will be transferred in from other states. **None. The system will be highly automated and will be monitored by the current powerhouse employees.**
- 7.7** If employment attributable to the proposed project will vary on a seasonal or periodic basis, explain the variation and estimate the number of employees involved. **N/A. See 7.6**
- 7.8** Estimate the percent distribution of annual wages and salaries (based on regular working hours) for employees attributable to this project: . **N/A. See 7.6**

<u>Wage/salary</u>	<u>Percent of employees</u>
<\$10,000	
\$10,000-14,999	
\$15,000-24,999	
\$25,000-34,999	
\$35,000-49,999	
\$50,000-64,999	
\$65,000-74,999	
\$75,000-99,999	
>\$100,000	

Estimate the annual taxes to be paid in Delaware attributable to this proposed project: . **N/A. See 7.6**

State personal income taxes:	\$
State corporate income taxes	\$
County and school district taxes:	\$
Municipal taxes:	\$

## **PART 8**

### **SUPPORTING FACILITIES REQUIREMENTS**

Describe the number and type of new supporting facilities and services that will be required as a result of the proposed project, including, but not limited to:

a. Roads - **None**

b. Bridges - **None**

c. Piers and/or docks - **None**

d. Railroads - **None**

e. Microwave towers - **None**

f. Special fire protection services not now available - **None**

g. Traffic signals - **None**

h. Sewer expansion - **None**

i. Energy related facilities expansion – **This project will reduce demand on public utilities – see offset description in Part 6C and Attachments B (Emission Comparison Summary) and F (Offset Matrix).**

j. Pipelines – **the existing landfill gas delivery pipeline from Cherry Island landfill to the Croda property line will deliver the gas. It is owned and operated by others.**

## PART 9

### AESTHETIC EFFECTS

- 9.1 Describe whether the proposed project will be located on a site readily visible from a public road, residential area, public park, or other public meeting place (such as schools or cultural centers). **Project will not be readily visible from off site**
- 9.2 Is the project site location within a half mile of a place of historic or scenic value? **No known historic site within one-half mile. Lukens Marsh is within one-half mile but the project will have no impact on the Marsh.**
- 9.3 Describe any planned attempt to make the proposed facility aesthetically compatible with its neighboring land uses. Include schematic plans and/or drawings of the proposed project after it is complete, including any landscaping and screening.

**The project will be constructed on an existing industrial site next to an existing building and will be compatible with existing uses.**

## **PART 10**

### **EFFECTS ON NEIGHBORING LAND USES**

- 10.1** How close is the nearest year-round residence to the site of this proposed project? **Over one-half mile**
- 10.2** Will this proposed project interfere with the public's use of existing public or private recreational facilities or resources? **No**
- 10.3** Will the proposed project utilize or interfere with agricultural areas? **No**
- 10.4** Is there any possibility that the proposed project could interfere with a nearby existing business, commercial or manufacturing use? **No**

# **ATTACHMENTS**